HP Wireless Print Server wp110

Configuration Guide

English

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product

This manual is for use with the **HP Wireless Print Server wp110**, product number J6062A.

safety compliance

The **HP Wireless Print Server wp110** complies with EN60950:

EN60950 1992 +A1,A2,A3,A4,A11

Configuration Guide

HP Wireless Print Server wp110

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introduction

hp wireless print server overview

The print server is a printer accessory that supports the IEEE 802.11b standard for wireless LAN (WLAN) communications. When the print server is attached to a printer, appropriately configured computers can send print jobs to the printer over the WLAN.

When a computer sends a file to the printer, a radio signal is transmitted. When the print server receives the incoming signal, either directly from the computer (ad hoc/computer to computer mode) or from an access point (infrastructure/AirPort Network mode), the printer prints the file.

With the wireless print server, users can roam without losing printing capability and network administrators have greater flexibility in network design.

whom this guide is written for

This guide is for network users and administrators who have a working knowledge of the following:

- wireless LAN technology
- print server technology
- the operating system(s) running on the computer(s) being configured to use the print server

terms and conventions

terms

This guide uses *ad hoc mode* and *infrastructure mode* to refer to the two operating modes in which the print server can function in Windows. Macintosh uses the terms *computer to computer* and *AirPort Network* for the two operating modes.

Terms you may find associated with ad hoc mode are *peer-to-peer* or *independent basic service set (IBSS)*. Terms associated with infrastructure mode are *networking*, *enterprise*, or *star topology*.

The HP Wireless Print Server wp110 is referred to as the *print server*.

definitions

The *Configuration Guide* also uses the following terms:

- **access point** — a bridge that links the wireless LAN to the wired LAN.
- **DHCP** — dynamic host configuration protocol. A protocol that provides dynamic IP address allocation.
- **passphrase** — a string of characters or words used to generate the WEP key.
- **SSID** — service set identifier. A wireless LAN naming convention that provides access control by logically segmenting the LAN; also known as Electronic System Identifier (ESSID) and WLAN Service Area ID.
- **WEP** — Wired Equivalent Privacy. A security protocol for WLANs defined in the IEEE 802.11b standard, provides security by encrypting data over radio waves.
- **WEP key** — a shared key algorithm for encrypting data.
- **WLAN** — wireless local area network.

symbols

The > symbol guides you through a series of software steps. For example:

Click **Apple** > **Control Panels** to view the active control panels.

WLAN concepts: the 802.11b standard

The print server supports the IEEE 802.11b standard to provide standards-based compatibility with a wide range of products.

IEEE 802.11b standardizes wireless communications on layers one and two of the ISO OSI model (the physical layer and data link layer).

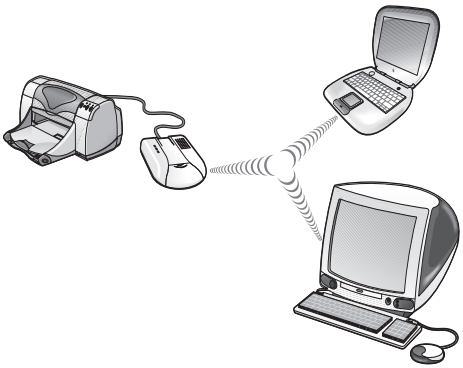
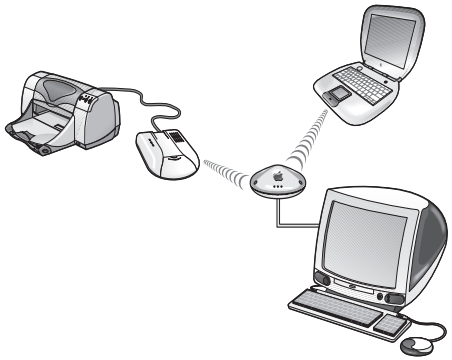
An 802.11b WLAN:

- communicates using radio waves that penetrate many indoor structures and can reflect around obstacles. Throughput depends on several factors including the number of users, microcell range, interference, multipath propagation, standards support, and hardware type.
- operates within the 2.4 GHz ISM band
- divides the 2.4 GHz band into 14 channels using direct-sequence spread spectrum (DSSS)
- uses Carrier Sense Multiple Access with Collision Avoidance (CSMA/CA) to avoid packet collisions

The Wireless Ethernet Compatibility Alliance (WECA) tests 802.11b systems for compliance and interoperability. WECA certified products carry the Wi-Fi (Wireless / Fidelity) logo. Hewlett-Packard is a member of WECA.

operating modes

The print server can be configured for ad hoc/computer to computer or infrastructure/ AirPort Network operating mode.

ad hoc/computer to computer mode	infrastructure mode/AirPort network
Allows the devices to communicate directly without being wired to a network. This is the default operating mode for the print server.	Allows both wireless and wired computers to send files to the printer through an access point.
	

print server management

The print server can be accessed and monitored using:

- the embedded Web server (Windows only)
- the wp110 utility (Macintosh only)
- telnet
- HP Web JetAdmin, HP's premiere printer management software. Go to **www.hp.com/go/webjetadmin** for information on HP Web JetAdmin.

security: wired equivalent privacy

Improve the security of your wireless network in infrastructure mode by using the Wired Equivalent Privacy (WEP) features of the print server. WEP supports data encryption and access control. For WEP to work, the encryption key on the print server must be set to the same value as the access point.

Note Wireless transmission speed is reduced when WEP is enabled due to the time required for encryption and decryption.

encryption

The server uses an optional 40- or 128-bit encryption key. While the computer and access point are associated, data transmissions can be encrypted using this key. Only users with the correct key can decrypt the data.

When encryption is in use, the access point issues an encrypted challenge packet to any device attempting to associate with it. The device must use its key to encrypt the correct response in order to authenticate its transmissions and gain network access.

SSID

SSID is a naming convention that provides basic access control to the network. Each wireless network is assigned an SSID. This information is required for any wireless computer to associate with another computer or any access point on the wireless network.

passphrase

A passphrase is a string of characters or words that are used by a WEP algorithm to generate the WEP key.

> **Note** Implementation of WEP algorithms may vary from one vendor to another.

signal range

The range in which devices can communicate with the print server depends upon the environment in which the print server is installed. Typical usage in an office is up to a maximum of 100 feet (30 meters).

> **Note** Performance speed of the wireless transmission reduces as the distance between devices increases.

configuring the print server for Windows

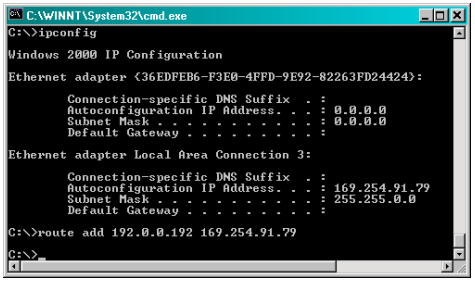
This section describes how to configure the print server in Windows (if configuring multiple print servers, only one print server can be configured at a time). Before you begin, verify that:

- the computer uses Windows 98, NT 4.0, Me, or 2000.
- the print server is properly connected and a Print Server Configuration Page was printed and saved for reference (see page 17 for printing instructions).
- the WLAN network interface card is properly installed and working correctly on the computer.
- each computer using the print server has the HP *Network* or *Corporate User* driver (also known as the *Add Printer* driver) to install the printer. Printer drivers are available at **www.hp.com/support/printers**. You may also install the driver using the printer's CD-ROM.
- the WLAN access point is working correctly (infrastructure mode only).

Follow these steps to configure the print server for Windows:

1. Using the computer's wireless configuration software, ensure the computer is set to **ad hoc mode**.
2. Set the computer's SSID to **hp** and ensure that the WEP security feature is disabled.

   Note The SSID is case sensitive. Entering "HP" instead of "hp" will result in a communication failure.
3. Verify the computer's IP address. At the DOS command prompt, type **ipconfig** to display the IP address.


C:\WINNT\System32\cmd.exe
C:\>ipconfig
Windows 2000 IP Configuration
Ethernet adapter {36EDFEB6-F3E0-4FFD-9E92-82263FD24424}:
Connection-specific DNS Suffix . :
Autoconfiguration IP Address. . . : 0.0.0.0
Subnet Mask . . . . . : 0.0.0.0
Default Gateway . . . . . :
Ethernet adapter Local Area Connection 3:
Connection-specific DNS Suffix . :
Autoconfiguration IP Address. . . : 169.254.91.79
Subnet Mask . . . . . : 255.255.0.0
Default Gateway . . . . . :
C:\>route add 192.0.0.192 169.254.91.79
C:\>

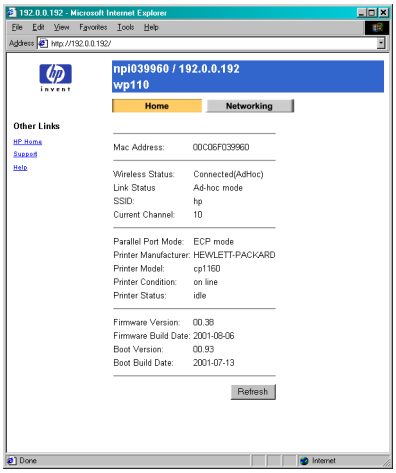
4. Establish a path from the computer to the print server. The print server's default IP address is 192.0.0.192, using 255.255.255.0 for the subnet and 255.255.255.255 for the gateway.

   At the DOS command prompt, enter **route ADD,** followed by the IP address of the print server, then a space, followed by the computer address.

   For example, with a computer IP address of 192.124.11.11, enter **route ADD 192.0.0.192 192.124.11.11**. If DHCP is enabled on the computer, allow two minutes for an IP address to be assigned.

5. Enter **192.0.0.192** as the URL in a browser to open the print server's Embedded Web Server.

   Note Disable the web proxy if one is being used on the computer.

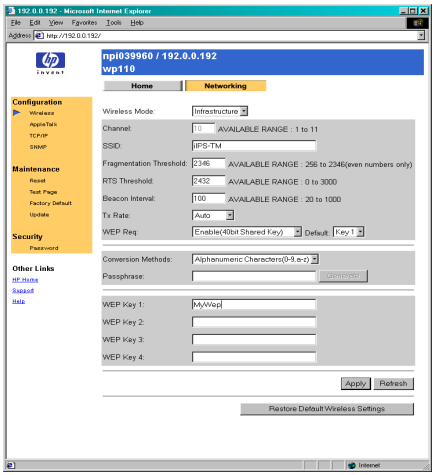


6. In the Embedded Web Server, select the Wireless Settings option from the Configuration menu. Then:

   a. Set the print server to the desired mode (ad hoc or infrastructure).

   b. Set the print server SSID to match the SSID of the WLAN.

   c. If using WEP security, enable the WEP Request and enter the appropriate WEP key as specified by your network administrator.

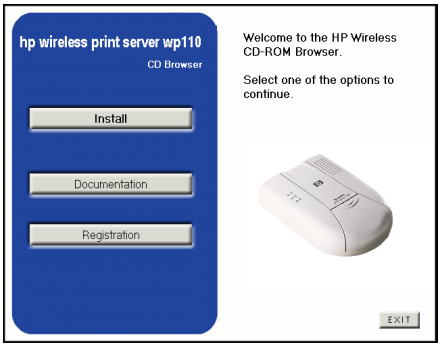


7. If setting a special TCP/IP configuration (due to DHCP requirements or Access List restrictions, for example), open the TCP/IP Configuration page and enter the settings.

8. Click **Apply** to apply changes. Reset the print server by either selecting the **Reset** option from the Configuration menu or following the screen prompts.

9. Reconfigure the computer to match the mode of the print server, if necessary.

10. For each computer using the print server, insert the print server CD-ROM and select **Install** from the CD-ROM menu. Follow the onscreen instructions.



verifying the printer connection

Whenever you change the settings on the print server, print a trial print job to verify communications between the computer, the access point (when in infrastructure mode), and the print server:

1. Open an application (for example, a Web page, document, or spreadsheet) and print a page.
2. Verify that the file is printed on the printer connected to the print server. If the file does not print, see “troubleshooting” on page 15.

configuring the print server for Macintosh

This section describes how to configure and use the print server on a Macintosh. It includes an overview of the hp wp110 utility and instructions to:

- configure the print server for AirPort Network mode
- print using the print server
- reset the print server to computer to computer mode
- change the print server's zone

Before you begin, verify that:

- the computer uses Macintosh operating system 8.6, 9.x, or OS X
- the print server is properly installed and a Print Server Configuration Page was printed and saved for reference (see page 17 for printing instructions).
- the WLAN network interface card is properly installed and working correctly on the computer
- the WLAN access point is working correctly (AirPort Network mode only)

The print server default mode is computer to computer. Follow these steps to configure the print server for Macintosh:

using the hp wp110 utility

The hp wp110 utility is used to configure the print server. Run the utility either directly from the hp wp110 wireless print server CD-ROM or from your computer's hard drive.

To copy the hp wp110 utility to the computer's hard drive:

1. Insert the hp wp110 wireless print server CD-ROM into the CD-ROM drive.
2. Drag and drop the appropriate **hp wp110 utility** from the CD-ROM to your Desktop or a folder on your computer.

configuring the computer in computer to computer mode

1. Verify that the computer is set for computer to computer mode in the AirPort application.
   a. In the Finder, select the **Apple** > **AirPort** application.
   b. Click **Settings** in the AirPort Status screen if the Settings drop-down list is not displayed.
   c. In AirPort Network, set Choose Network to **Create computer to computer**.
   d. Select **hp** from the drop down menu.
2. Verify that AppleTalk is active.
   a. Select **Open AppleTalk** from the File menu.
   b. Set Connect via to **AirPort**.
   c. Close the dialog box.
   d. Close the AirPort application.

printing in computer to computer mode

1. Verify that the printer connected to the print server is selected in the Chooser.
   a. Open the Chooser.
   b. Select the desired **printer** icon from the left side of the Chooser window.
   c. Select the desired **printer** from the right side of the Chooser. See AppleTalk Settings on the Print Server Configuration Page for printer name.
   d. Click **Setup**.
   e. Select the desired **printer type and options**.
   f. Click **OK**.
   g. Close the Chooser.
2. Click on the **Desktop**, then from the Finder select **File** > **Print Desktop**.

   Verify that the Desktop is printed on the printer connected to the print server.

   Congratulations! You are now ready to print via the print server.

setting the print server to networking mode

Before setting the print server to networking mode, you must:

- configure the computer in computer to computer mode (see page 9 for instructions)
- determine whether the WLAN is using the Wired Equivalent Privacy (WEP) option

if the WEP option is enabled

A password is required to correctly configure the print server when WEP is enabled. If you are using Apple AirPort version 1.2 or greater, obtain the base station's Network Equivalent Password by following the steps listed below. If the system is not Apple AirPort version 1.2 or greater, see your network administrator for the password

1. Verify that Apple AirPort software version 1.2 or greater is installed on the computer and that the Apple AirPort base station is operating correctly on the network.
2. Open the Apple AirPort Admin Utility on the computer.
3. When prompted, select the **base station** from the list displayed.
4. Click **Configure**.
5. Enter the **password** for the base station.
6. Select the menu item **Base Station**.
7. Select the **Network Equivalent Password** menu item.
8. Record the **password**.

if the WEP option is not enabled

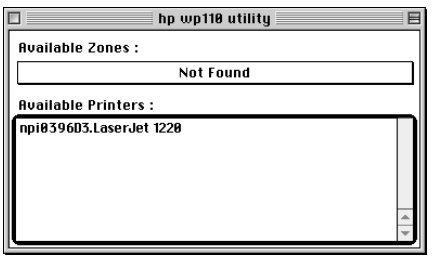
Verify that the computer is in computer to computer mode before configuring the print server.

configuring the print server

Follow these steps to set the print server to networking mode:

1. In computer to computer mode, print a Print Server Configuration Page (see page 17 for instructions).
2. Double-click the **hp wp110 utility** icon.

   The hp wp110 utility screen appears.

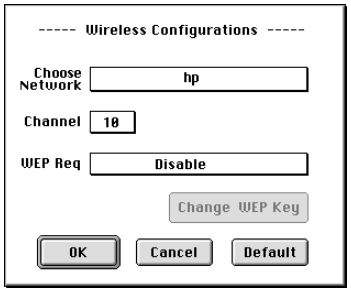


3. Click to highlight the **name of the printer** connected to the print server being reconfigured.

4. Select **Setup** > **Wireless** to open the Wireless Configurations screen.

   OS X Only An onscreen message will appear. In response to it, change the print server's IP address to match the subnet of the Macintosh configuring the print server.

   For example, if the Macintosh that is configuring the print server uses 169.254.104.197 as the IP address, then 169.254.104.10 is a valid IP address for the print server. Once the print server is configured, the IP address of the Macintosh can be changed.



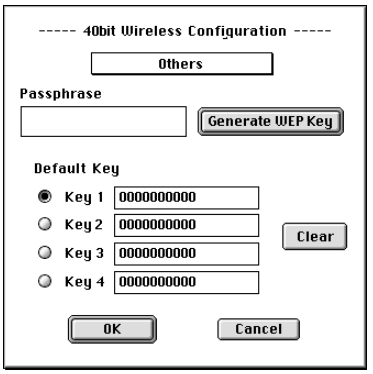
5. Set the following options:

   a. Choose Network: select the **name of the AirPort base station**

   b. Channel: *no action needed*

   If WEP is used, select the WEP Req to **Enable (Shared Key)**. Then set the **WEP Key** by entering either the Default Key or a Passphrase for the base station.

   Note See page 10 for instructions on setting appropriate WEP values in the AirPort Admin Utility.



   If WEP is not used, select the following options:

   – WEP Req: **Disable**

   – WEP Key: *no action needed*

6. When Wireless settings change, the Restart Print Server message appears.

   – If changing TCP/IP, AppleTalk or other settings, click Cancel and make changes before resetting the Print Server.

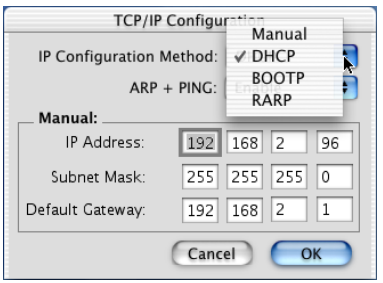
   – If not making changes to other settings, click **OK**.

   The notification message screen appears.

7. Click **OK**.

   The print server is set to the networking mode.

8. **OS X Only** Establish TCP/IP settings.



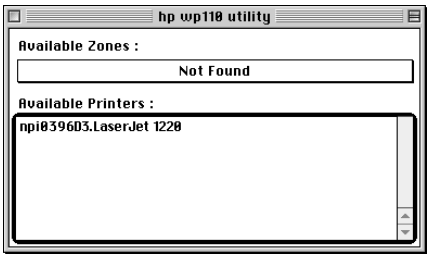
printing with the wireless print server

1. Use the AirPort control panel on the Macintosh computer to choose the **AirPort network** for the AirPort base station (see Apple AirPort instructions, if necessary).
2. Verify that the printer connected to the print server is selected in the Chooser.
   a. Open the Chooser.
   b. Select the desired **printer** icon from the left side of the Chooser window.
   c. Select the desired **printer** from the right side of the Chooser window.
   d. Click **Setup**.
   e. Select the **desired printer type and options**.
   f. Click **OK**.
   g. Close the Chooser.
3. Click the **Desktop**. Then, from the Finder, select **File** > **Print Desktop**.
4. Verify that the Desktop prints on the printer connected to the print server.

   Congratulations! You are now ready to print files using the print server over the wireless network.

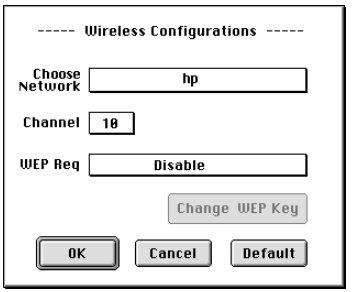
resetting the print server to computer to computer mode

1. Double-click the **hp wp110 utility** icon to open the wp110 utility.



   The name of the printer connected to the print server appears in the list of Available Printers.
2. Click the **name of the printer** connected to the desired print server.
3. Select **Setup** > **Wireless**.

   The Wireless Configurations screen appears.



4. Set the following options:
   - Mode: **computer to computer**
   - SSID: enter appropriate **SSID** for the computer to computer network
   - Channel: **10**

   Note Only channels 10 – 13 (2.457 – 2.472 GHz) may be used in France. For indoor use only.

   - WEP Req: **Disable**
5. Click **OK**.

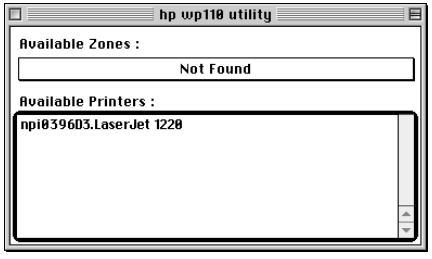
   The notification message screen appears.
6. Click **OK**.

   The print server is set to computer-to-computer mode.

renaming the printer connected to the print server

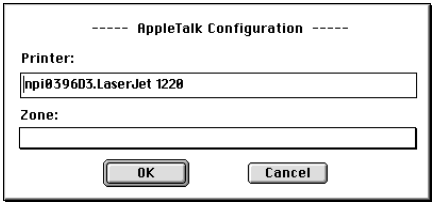
1. Double-click the **hp wp110 utility** icon.

   The hp wp110 utility screen appears.



2. If in AirPort Network mode, double-click the appropriate AppleTalk Zone to display the name of the printer connected to the print server that is being renamed.
3. Click the **name of the printer** being renamed.
4. Select **Setup > AppleTalk**.

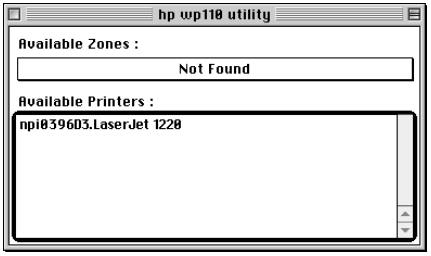
   The AppleTalk Configuration screen appears.



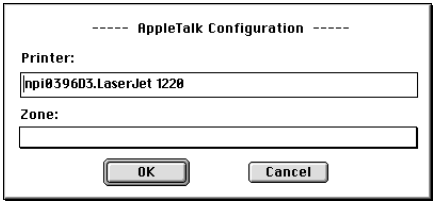
5. Select the **name of the printer** from the drop down menu that is being renamed.
6. Enter the **new name** for the printer, then click **OK**.
7. Select the newly **renamed printer** in the Chooser.

changing the zone of the printer connected to the print server

1. Double-click the **hp wp110 utility** icon.
   The hp wp110 utility screen appears.



2. Click the current **AppleTalk Zone** for the printer that is changing zones.
3. Click the **name of the printer** to be rezoned.
4. Select **Setup** > **AppleTalk**.
   The AppleTalk Configuration screen appears.



5. Select the **new zone** for the printer in the drop-down menu.
6. Click **OK**.
7. Select the **newly rezoned printer** in the Chooser.

verifying the printer connection

Whenever you change the settings on the print server, print a trial print job to verify communications between the computer, the AirPort base station (when in AirPort Network mode), and the print server.

Click the **Desktop**. Then from the Finder select **File** > **Print Desktop**.

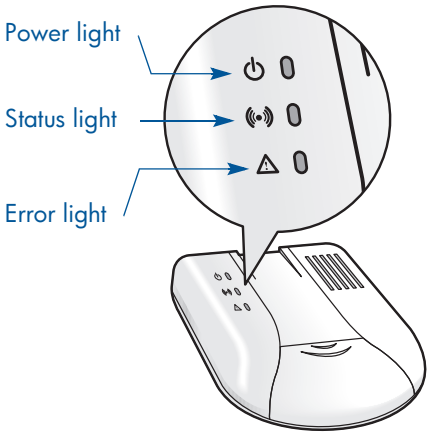
Verify that the Desktop prints on the printer connected to the print server.

troubleshooting

This section offers solutions if you have problems printing with the print server.

understanding the print server lights

The three lights on the print server provide visual cues about the status of the print server.



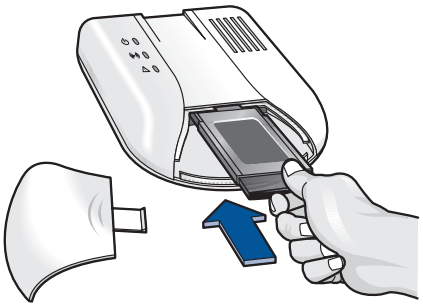
The following table explains print server light conditions.

if Power is...	if Status is...	if Error is...	then the print server is...
steady	blinking	off	processing information for the printer
steady	steady	steady	initializing
blinking simultaneously		off	printing a Print Server Configuration Page
blinking simultaneously			restoring the default settings
steady	off	blinking	experiencing an error with the internal Type II PCMCIA card. See “resetting the PCMCIA card” on page 16
off	off	steady	experiencing an error. You must recycle the power. Disconnect the power cord from the print server, then reconnect it. If the problem persists, contact HP Customer Care.

resetting the PCMCIA card

The print server contains a Type II PCMCIA card. To reset the card:

1. Unplug the power cord from the print server.
2. Remove the front cover of the print server.
3. Verify that the PCMCIA card is firmly inserted into the plug.



4. Plug the power cord into the print server.
5. Observe the lights and verify that the initialization cycle is normal:
   a. All three lights turn on.
   b. All three lights turn off.
   c. The Power light turns on.
6. Replace the front cover.
7. After the print server completes its initialization cycle, print a Print Server Configuration Page.

resetting the print server to factory default settings

If you have trouble configuring the print server, you may want to restore the factory default settings. The print server's default settings are:

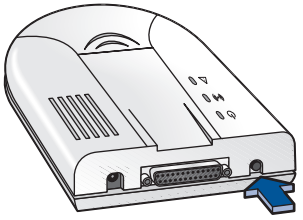
- Connection Mode: **ad hoc/computer to computer**
- Channel: **10**
- SSID: **hp**
- WEP: **Disabled**
- Printer: **Server name.Printer name**

To return the print server to the default settings:

1. Unplug the power cord from the print server.

   Note Do not unplug the parallel cable from the printer.

2. Press and hold the **Test** button on the back of the print server.

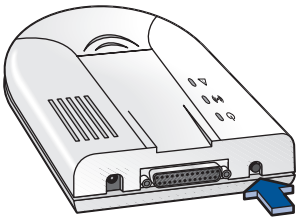


3. While pressing the **Test** button, plug the power cord into the print server.
4. Continue to press the **Test** button until a Print Server Configuration Page begins to print.
5. Release the **Test** button.

   The print server resets to the default settings displayed on the Print Server Configuration Page.

printing a print server configuration page

1. Turn on the printer.
2. Press and hold the **Test** button on the back of the print server until the Power and Status lights begin blinking.



3. Release the **Test** button to print a Print Server Configuration Page.

Printing a Print Server Configuration Page verifies that the print server and printer are communicating properly. If the Print Server Configuration Page does not print:

1. Verify the following:
   - power and parallel cables are firmly connected
   - printer is turned on
   - PCMCIA card is securely installed
2. Print a Print Server Configuration Page.
3. If a Print Server Configuration Page does not print, see page 19.

Shown below is a print server's default settings.

```
**********************  Print Server Configuration **********************

    Mac Address             : 00C06F0396D3
    FLASH-ROM Version       : 0035
        Build Date          : 2001-07-16
    BOOT-ROM  Version       : 0090
        Build Date          : 2001-05-17

1. TCP/IP settings
     IP Address             : 192.168.2.200
     Subnet mask            : 255.255.248.0
     Default Gateway        : 192.168.2.1
     RARP                   : Disable
     BOOTP                  : Disable
     DHCP                   : Disable
     ARP + PING             : Enable
2. AppleTalk Settings
     Status                 : Enable
     Printer                : npi0396D3.LaserJet 1220
     Zone                   : (default zone)
3. SNMP settings
     Set Community Name     : (set)
4. Wireless settings
     Connection Mode        : Infrastructure
     WEP Request            : 40Bit Enable(Shared Key)
     SSID                   : iIPS-TM
     Fragmentation Thresh.  : 2346
     RTS Threshold          : 0
     Tx Rate                : Auto
     Country Code           : 2
5. Current Status
     Connection Status      : Connected(Infrastructure)
     Link Status            : Good
     Current Channel        : 3
     Parallel Port Mode     : ECP Mode
     Printer Manufacturer   : Hewlett-Packard
     Printer Model          : HP LaserJet 1220
6. Network Statistics
     Unicast Packets Rcvd.  : 3
     Total Packets Rcvd.    : 92
     Packets Transmitted    : 29

*****************************************************************************
END OF PRINTOUT
```

The Print Server Configuration Page lists the following information about your print server:

Mac Address — your print server's unique hardware number, the MAC (Media Access Control) address

FLASH-ROM — the firmware version and date

BOOT-ROM — device boot code version

TCP/IP — the IP address and associated settings

AppleTalk Settings — a list of current AppleTalk settings

SNMP — shows whether SNMP community names (passwords) have been "Set"

Wireless Settings — WLAN settings in accordance with the IEEE 802.11b standard

Current Status — information about the attached printer and connectivity. Link Status shows the state of the last packet received.

Network Statistics — network traffic statistics

Shown here is an example of a print server configured in infrastructure mode. If a Print Server Configuration Page does not print, see page 19.

```
**********************  Print Server Configuration **********************

   Mac Address             : 00306E0D699E
   FLASH-ROM Version       : 0036
       Build Date          : 2001-07-24
   BOOT-ROM  Version       : 0101
       Build Date          : 2001-01-29

1. TCP/IP settings
    IP Address             : 192.168.2.163
    Subnet mask            : 255.255.255.0
    Default Gateway        : 192.168.2.1
    RARP                   : Disable
    BOOTP                  : Disable
    DHCP                   : Enable
    ARP + PING             : Enable
2. AppleTalk Settings
    Status                 : Enable
    Printer                : npi0396D3.LaserJet 1220
    Zone                   : (deafult zone)
3. SNMP settings
    Set Community Name     : (not_set)
4. Wireless settings
    Connection Mode        : Infrastructure
    WEP Request            : 40Bit Enable(Shared Key)
    SSID                   : iIPS-TM
    Fragmentation Thresh.  : 2346
    RTS Threshold          : 0
    Tx Rate                : Auto
    Country Code           : 2
5. Current Status
    Connection Status      : Connected(Infrastructure)
    Link Status            : Excellent
    Current Channel        : 3
    Current Datarate       : 2 (Mbps)
    Parallel Port Mode     : ECP Mode
    Printer Manufacturer   : Hewlett-Packard
    Printer Model          : HP LaserJet 1220
6. Network Statistics
    Unicast Packets Rcvd.  : 2
    Total Packets Rcvd.    : 72
    Packets Transmitted    : 19

******************************************************************************
END OF PRINTOUT
```

contacting hp customer care

HP Customer Care's service and support provides expert advice on using your HP printer or solving problems with your HP printer. There are several ways to obtain assistance — what you need, when you need it!

hp's support process

HP Customer Care's support process works most effectively if you look for help in the following order:

1. Access HP Customer Care e-support.

   Use your Internet connection any time of the day to:

   – Check HP's Web support pages for product help
   – Read the HP user community forum messages or post a question
   – Send HP an email message

   See below, "hp customer care e-support", for more information.
2. Contact HP Customer Care by phone during hours of operation (see page 20 for more information).

   Note Support options and availability vary by product and country/region.

hp customer care e-support

hp customer care online

HP Customer Care e-support offers instant access to support information, helpful printing tips and the latest software updates—24 hours a day, seven days a week, all at no cost to you.

hp support Websites

If you have a modem connected to your computer and subscribe to an Internet Service Provider or have direct access to the Internet, you can obtain a wide variety of information about your HP Wireless Print Server. Visit **www.hp.com/support/net_printing**.

Link to HP user community forums and HP Customer Care email from the HP Customer Care Website. Log on to the Website then select the appropriate options. When the hp customer care screen appears, click **Connect with HP**.

hp user support forums

Go online to find helpful user forums — a great source of ideas and suggestions for using your print server. Go to **www.hp.com/go/forums** and select the print servers forum.

HP's Customer Care online user community forums let you read through questions and answers provided by other HP users to find a solution to your support question. You can also post your own question, then revisit the site for ideas and suggestions from knowledgeable users or forum moderators.

hp customer care email

HP provides email support in English for in-warranty products. Email responses can be expected within two United States business days. Email support is a great way to ask technical questions or obtain answers that are tailored to your specific system.

hp customer care by phone

HP provides telephone support free of charge during the warranty period for your HP Wireless Print Server. Highly trained technicians at our HP Customer Care Center are ready to take your call.

> **Note** Telephone fees are the responsibility of the caller. Rates may vary. Contact your local telephone company for current rates.

For HP Customer Care telephone numbers worldwide visit **www.hp.com/support/support_assistance** and select "call hp". In the USA, the HP Customer Care telephone number for HP Wireless products is: (208) 323-2551.

free* phone support period

for this region...	use this phone number...
Canada	(905) 206-4663 or (800) 387-3867
France	+ 33 (0)1 43 62 34 34
Germany	+ 49 (0)180 52 58 143 (0.12 DM/30 sec. or EUR 0.06/30 sec.)
Italy	+ 39 02 264 10350
Spain	+ 34 902 321 123
United Kingdom	+ 44 (0)207 512 52 02
USA	(208) 323 2551

* Standard phone company charges apply.

before placing a call

Before placing a call, try these other free support options:

- HP Customer Care e-support
- HP Customer Care audio tips (if you are in the U.S.) Solutions to commonly asked questions are provided when you phone our toll-free automated support line at (877) 283-4684.

If you cannot solve the problem using these resources, call an HP Customer Care service technician while you are in front of your computer and near your HP Wireless Print Server with printer. For faster service, please be prepared to provide information about the steps you have taken to solve the problem.

In addition, HP needs the following information to assist you:

- The HP Wireless Print Server's serial number and MAC address (from the label on the bottom of the print server)
- The HP Wireless Print Server's Firmware Version number

  Windows users can either look on the first screen of the embedded web server or print a Print Server Configuration page.

  Macintosh users can look on either the first screen of the embedded web server or the hp wp110 utility (select **Setup** > **Version Information** in the hp wp110 utility).
- The HP Wireless Print Server's LED status
- A Print Server Configuration Page printed from the print server when the problem occurred (see page 17 for more information). Information on utility settings and print server status, which is useful in diagnosing setup problems, is included in this section.
- The printer's model number (printed on the label located on the front of the printer)
- The printer's serial number (printed on the label located on the bottom of the printer)
- The computer's operating system
- The computer's WLAN card brand and model
- The access point brand and model (if using)
- The version of the printer driver (also referred to as the printer software)
- Messages displayed when the situation occurred
- Answers to these questions:
  - Has this situation happened before? Can you re-create it?
  - Did you add any new hardware or software around the time this situation began?
  - Distance of the print server from the access point (infrastructure/AirPort Network mode) or computer (ad hoc/computer to computer mode).
  - Number of wireless computers in area.
  - Application in use when the problem occurs (if application specific).

obtaining hp customer care repair

If your HP print server needs repair, call HP Customer Care phone support. (See HP's support phone numbers.) A trained HP Customer Care service technician will diagnose the problem and coordinate the repair process.

Customer Care will direct you to the best solution, whether it is an authorized service provider or an HP facility. This service is free during your print server's limited warranty period. After the warranty period, you will be quoted a repair cost.

updating the software, firmware, and driver

HP offers downloadable electronic upgrades for HP Wireless Print Servers with internal Flash memory. The electronic upgrades are available on the Web and various online services.

Current information about drivers, software versions, and HP Print Server firmware images are available from the following:

hp's customer care online at www.hp.com/support/net_printing

America Online customers can receive drivers and upgrades by downloading them to their computers from the HP Forum.

Windows users upgrade through the embedded Web server's Upgrade menu item.

Macintosh users upgrade using the hp wp110 utility.

hp distribution center

Order upgrades for the print server by calling the HP Distribution Center at (805) 257-5565 (USA only).

ftp site

Download upgrades for the print server from HP's anonymous FTP site at **ftp://ftp.hp.com/pub/networking/software**.

replaceable parts and accessories

Verify part numbers when replacing parts and accessories.

HP Wireless Print Server:	**J6062A**
Parallel Printer Cables: HP IEEE 1284-Compliant Parallel Interface Cable (with one 1284-A connector for the print server port and the correct 1284 connector for the printer port).	**C2950A** (1284-B, 2m) **C2951A** (1284-B, 3m) **C2946A** (1284-C, 3m)
Power Modules:	
USA	**J6062-80020**
Continental Europe	**J6062-80021**
United Kingdom	**J6062-80022**
Japan	**J6062-80023**

HP Wireless Print Server wp110 specifications

model number
J6062A

supported operating systems
Windows 98, Me, NT 4.0, and 2000
Macintosh 8.6, 9.x, OS X

printer interface
Centronics bidirectional parallel port, IEEE 1284 compliant (parallel cable not included)

network interface
Wireless standard:
IEEE 802.11b

Interface type:
Type II PCMCIA card

Operating modes:

- ad hoc/computer to computer
- infrastructure/AirPort Network

Frequency bands and channels:

region	frequency	channels
Europe (ETSI)	2.412 – 2.472 GHz	1 – 13
France*	2.457 – 2.472 GHz	10 – 13
Japan	2.412 – 2.484 GHz	1 – 14
US, Canada	2.412 – 2.462 GHz	1 – 11

***Note** Only channels 10 – 13 (2.457 – 2.472 GHz) may be used in France. For indoor use only.

Modulation:
Direct sequence spread spectrum (CCK, BPSK, QPSK)

Data rate:
11 Mbps (auto-detect)

Security:
WEP 40- or 128-bit encryption

Operating service area:
Closed office — Up to 100 feet or 30 meters (maximum)
Open space — Up to 400 feet or 120 meters (maximum)

supported protocols
TCP/IP – LPD, HTTP, SNMP, DHCP, FTP, UDP, ARP, RARP, ICMP, IPP, PING

AppleTalk – AARP, ATP, NBP, PAP,RTMP, DDP, ZIP, ELAP

supported browsers
Microsoft Explorer 4.0 or above
Netscape 5.0 or above

ad hoc/computer to computer mode requirements

- IEEE 802.11b compliant, platform compatible (Windows, Macintosh) network interface card
- AirPort-enabled CPU (Macintosh only)

infrastructure/AirPort network requirements

Windows

- IEEE 802.11b compliant network interface card
- IEEE 802.11b access point

Macintosh

- Apple network-enabled CPU
- IEEE 802.11b compliant network interface card
- Apple AirPort access point
- Apple AirPort system software version 1.3 or greater required to support print server configuration

supported Host Hardware

- AirPort
- Cisco
- Lucent
- 3Com

indicator lights

Power
Status
Error

buttons

Test

printer compatibility

For a complete, up-to-date list of supported HP printers, visit the HP Website at:
www.hp.com/support/net_printing

dimensions

5.4 in (137 mm) W x 1.4 in (36 mm) H x 7.1 in (180 mm) L

power requirements

Power module output: 8 VDC at 1000 mA maximum

operating environment

Maximum operating temperature:
32° F (0° C) to 104° F (40° C)

Humidity:
10–90 percent RH non-condensing

Storage temperature:
-4° F (-20° C) to 158° F (70° C)

power modules

region	input rating	output rating
USA (J6062-80020)	120 VAC 60Hz	8 VDC @ 1000mA
Continental Europe (J6062-80021)	230 VAC 50Hz	8 VDC @ 1000mA
United Kingdom (J6062-80022)	230 VAC 50Hz	8 VDC @ 1000mA
Japan (J6062-80023)	100 VAC 50/60Hz	8 VDC @ 1000mA

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Flash memory

legal information

limited global warranty statement and service

HP Wireless Print Server wp110

HEWLETT-PACKARD LIMITED GLOBAL WARRANTY STATEMENT

hp product	duration of warranty
HP Wireless Print Server wp110 Product Number: J6062A	One (1) year

HP warrants to you, the end-user customer, that HP hardware, accessories and supplies will be free from defects in materials and workmanship after the date of purchase, for the period specified herein. If HP receives notice of such defects during the warranty period, HP will, at its option, either repair or replace products that prove to be defective. Replacement products may be either new or equivalent in performance to new.

HP warrants to you that HP software will not fail to execute its programming instructions after the date of purchase, for a period of NINETY (90) DAYS, due to defects in material and workmanship when properly installed and used. If HP receives notice of such defects during the NINETY (90) day period, HP will replace software that does not execute its programming instructions due to such defects.

HP does not warrant that the operation of HP products will be uninterrupted or error free. If HP is unable, within a reasonable time, to repair or replace any product to a condition as warranted, you will be entitled to a refund of the purchase price upon prompt return of the product.

HP products may contain remanufactured parts equivalent to new in performance or may have been subject to incidental use.

Warranty does not apply to defects resulting from (a) improper or inadequate maintenance or calibration, (b) software, interfacing, parts or supplies not supplied by HP, (c) unauthorized modification or misuse, (d) operation outside of the published environmental specifications for the product, or (e) improper site preparation or maintenance.

HP's limited warranty is valid in any country or locality where HP has a support presence for this product and where HP has marketed this product. The level of warranty service you receive may vary according to local standards. HP will not alter form, fit or function of the product to make it operate in a country for which it was never intended to function for legal or regulatory reasons.

TO THE EXTENT ALLOWED BY LOCAL LAW, THE ABOVE WARRANTIES ARE EXCLUSIVE AND NO OTHER WARRANTY OR CONDITION, WHETHER WRITTEN OR ORAL, IS EXPRESSED OR IMPLIED AND HP SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, SATISFACTORY QUALITY, AND FITNESS FOR A PARTICULAR PURPOSE. Some countries, states or provinces do not allow limitations on the duration of an implied warranty, so the above limitation or exclusion might not apply to you. This warranty gives you specific legal rights and you might also have other rights that vary from country to country, state to state, or province to province.

HP will be liable for damage to tangible property per incident up to the greater of $300,000 or the actual amount paid for the product that is the subject of the claim, and for damages for bodily injury or death, to the extent that all such damages are determined by a court of competent jurisdiction to have been directly caused by a defective HP product.

TO THE EXTENT ALLOWED BY LOCAL LAW, THE REMEDIES IN THIS WARRANTY STATEMENT ARE YOUR SOLE AND EXCLUSIVE REMEDIES. EXCEPT AS INDICATED ABOVE, IN NO EVENT WILL HP OR ITS SUPPLIERS BE LIABLE FOR LOSS OF DATA OR FOR DIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFIT OR DATA), OR OTHER DAMAGE, WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE. Some countries, states or provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

THE WARRANTY TERMS CONTAINED IN THIS STATEMENT, EXCEPT TO THE EXTENT LAWFULLY PERMITTED, DO NOT EXCLUDE, RESTRICT OR MODIFY AND ARE IN ADDITION TO THE MANDATORY STATUTORY RIGHTS APPLICABLE TO THE SALE OF THIS PRODUCT TO YOU.

getting warranty service

For your records, please retain your original proof of purchase. Record the product number and serial number. Your product number is on a label on the bottom of the print server, for example, "J6062A". The serial number is on the same label.

your authorized dealer

If you encounter difficulty, begin by contacting the person who sold you the HP Wireless Print Server to you. Your HP Authorized Dealer will be familiar with your requirements and can provide assistance.

hp customer care for warranty service

For warranty service on HP Wireless Print Server products, call the HP Customer Care Center. See the following phone numbers or visit **www.hp.com/support/support_assistance** and select "call hp". The HP Customer Care representative will help you with troubleshooting, and advise you on warranty service.

When calling, please have the following information ready:

- the HP product model you are calling about; for example, "J6062A".
- the model number of the product; for example, "HP Wireless Print Server wp110".
- the serial number of the product.
- a complete description of the problem.
- the proof of purchase of your product.
- your shipping address.

for this region...	use this phone number...
Canada	(905) 206-4663 or (800) 387-3867
France	+ 33 (0)1 43 62 34 34
Germany	+ 49 (0)180 52 58 143 (0.12 DM/30 sec. or EUR 0.06/30 sec.)
Italy	+ 39 02 264 10350
Spain	+ 34 902 321 123
United Kingdom	+ 44 (0)207 512 52 02
USA	(208) 323-2551

service billing (out of warranty)

When ordering a replacement unit for out-of-warranty service, you may be charged a repair cost. See your HP Authorized Dealer or your local HP Sales and Service Office representative. You also can call HP at (800) 227-8164 (USA only). Be prepared to supply shipping and billing addresses and payment information.

service outside the USA

Customers outside the USA should contact their HP Authorized Dealer or the nearest HP Sales and Service Office to obtain information on prices, exchange unit availability, and instructions.

environmental statement

Hewlett-Packard continuously improves the design processes of its products to minimize the negative impact on the office environment and on the communities where the products are manufactured, shipped, and used. Hewlett-Packard has also developed processes to minimize the negative impact of the disposal of these products at the end of their life.

reduction and elimination

ozone: Ozone-depleting chemicals such as CFCs have been eliminated from Hewlett-Packard manufacturing processes.

recycling

Design for recycling has been incorporated into this print server. The number of materials has been kept to a minimum while ensuring proper functionality and reliability. Dissimilar materials have been designed to separate easily. Fasteners and other connections are easy to locate, access, and remove using common tools. High priority parts have been designed to access quickly for efficient disassembly and repair. Plastic parts have been primarily designed in no more than two colors to enhance recycling options. A few small parts are colored specifically to highlight customer access points.

packaging: The packaging materials for this print server have been selected to provide maximum protection for the least cost possible, while attempting to minimize environmental impact and facilitate recycling. The rugged design of the print server assists in minimizing both packaging materials and damage rates.

plastic parts: All major plastics and plastic parts are marked according to international standards. All plastic parts used in the print server housing and chassis are technically recyclable and all use a single polymer.

product take-back: To return this product to HP at the end of its useful life, call your local HP Sales or Service Office for instructions.

regulatory

The HP Wireless Print Server wp110 must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product. In some situations or environments, the use of a WLAN may be restricted by a building proprietor or representatives of an organization. These situations may include:

- Using the print server aboard airplanes, or
- In any other environment where the risk of interference to other devices or services is perceived or identified as harmful.

If you are not sure about the use of the print server in a specific environment, ask for authorization before turning on the equipment. The print server is intended for indoor use only.

declaration of conformity

The following Declaration of Conformity complies with ISO/IEC Guide 22 and EN45014. It identifies the products, the manufacturer's name and address, and the applicable specifications that are recognized in the European Community.

DECLARATION OF CONFORMITY

according to ISO/IEC Guide 22 and EN 45014

Manufacturer's Name: Hewlett-Packard Company

Manufacturer's Address: 452 Alexandra Road
Singapore 119961

declares, that the product

Product Name: HP wireless print server wp110
Model Number: J6062A
Product Options: all

conforms to the following Product Specifications:

Safety: EN 60950:1992+A1+A2+A3+A4+A11

EMC:
EN 61000-3-2:1995+A14
EN 61000-3-3:1995
EN 301 489-17:2000

Radio:
EN 300 328-2:2000
Notified Body-NMI Notified Body Number- 0122
CE 0122 ⓘ

Supplementary Information:
The product herewith complies with the requirements of the R&TTE Directive 1999/5/EC Annex IV and carries the CE mark accordingly.

Mark Vigeant

Date: August 1, 2001

Mark Vigeant Product Regulations Manager

European contact for regulatory topics only: Hewlett-Packard GmbH, HQ-TRE, Herrenberger Straße 130, 71034 Böblingen, Germany

FCC statement

This product has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Pursuant to Part 15.21 of the FCC Rules, any changes or modifications to this equipment not expressly approved by Hewlett-Packard Company may cause harmful interference and void your authority to operate this equipment. Use of a shielded data cable is required to comply with the Class B limits of Part 15 of the FCC Rules.

European requirements

France

Restricted frequency band: only channels 10 through 13 (2457 MHz and 2472 MHz respectively) may be used in France. License required for every installation, indoor and outdoor installations. Please contact ART for procedure to follow.

Bande de fréquence restreinte : seuls les canaux 10 through 13 (2457Mhz et 2472 MHz respectivement) doivent être utilisés en France.

Toute utilisation, qu'elle soit intérieure ou extérieure, est soumise à autorisation. Vous pouvez contacter l'Autorité de Régulation des Télécommuniations (http://www.art-telecom.fr) pour la procédure à suivre.

Italy

License required for indoor use. Use with outdoor installations not allowed.

E'necessaria la concessione ministeriale anche per l'uso interno.

Verificare con i rivenditori la procedura da seguire. L'uso per installazione in esterni non e' permessa.

exposure to radio frequency

This product uses a wireless LAN card (PCMCIA Card) to communicate with other devices using the 2.4 GHz ISM band. The radiated power output of this card is well below FCC radio frequency exposure limits. However, it is advised to maintain a minimum 20 cm separation between the product and user(s) or bystanders to minimize human exposure to the transmitted radio frequencies.

This product contains a transmitter module (PCMCIA Card) with its own FCC ID number. To access to the module's FCC ID number, remove the PCMCIA Card per the instruction in the manual.

electromagnetic energy transmission

The HP Wireless Print Server wp110 emits a level of electromagnetic energy that is much less than that of other wireless devices such as mobile phones. This product is designed according to regulatory guidelines for radio frequency safety and is safe for consumers.

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